

THURSDAY, FEBRUARY 24, 1881

## PROFESSOR MAX MUELLER AT UNIVERSITY COLLEGE

UNIVERSITY COLLEGE, London, is to be congratulated on the fresh step which was celebrated on Wednesday last week. The new wing which was then formally opened, and which will be largely devoted to scientific teaching, and let us hope research as well, will give the College more elbow-room in its career. Of course the "toasting" and speechifying at the dinner were largely collegiate, the speakers generally expressing their approval of the principles upon which University College and similar institutions have been founded. We have repeatedly called attention not only to the admirable educational work which University College has done since its foundation, but to the influence it has had on the higher teaching all over the country. Not only has it been in a sense the parent of not a few similar institutions, the number of which is almost every year on the increase, but it has undoubtedly had much to do with rousing from the lethargy of generations the two oldest and wealthiest universities of the country. Much as has been done recently in the way of reforming these two great educational centres, the work has been little more than begun. The advocates of university reform may therefore congratulate themselves that Prof. Max Müller was called upon to reply to the toast of "British Universities." His reply was not likely to be, and certainly was not, compounded of the common-places usually uttered on such occasions. Prof. Max Müller has reason to be grateful to Oxford, and his gratitude he expressed in terms of genuine tenderness. "At the same time," he went on to say, "Oxford, or at all events my friends at Oxford, have no feelings but those of sincere rejoicing at the springing up, and growing, and spreading of what may be called the young universities, the universities of the future. We watch them rising in every part of England as we watch the rising of new planets. We greet them as on a stormy night we greet new lighthouses coming into sight and shooting their rays of electric light through the darkness—yes, the darkness of this so-called enlightened century, the darkness visible, and best visible to those who have spent their lives in the study of even the smallest subject, and know how every one of them still bristles with problems that cannot be solved without a large collection of new facts, and without bringing to bear on them more powerful batteries of thought than are yet at our command."

Prof. Müller was so far loyal to his *Alma Mater* as to admit that the Oxford of the past has done good work; but the Oxford of the present is doing better work, and we trust with him that the Oxford of the future will do infinitely better work still. How the desirable end is to be accomplished is a problem that all true friends of learning in the country are anxious to have solved, and to attempt to solve which the recent Universities Commissioners were appointed. We do not mean at present to criticise the work which these Commissioners have been attempting to do; how far short that work is of anything like a high standard of reform may best be seen

by comparing what is known of their recommendations with the aspirations expressed in Prof. Max Müller's admirable speech.

"To compare the work that Oxford or Cambridge could do, and ought to do, with that of any other university, whether British or Continental, is simply absurd. Oxford, with its excellent material, the well-fed and well-bred youth of these islands; Oxford, with its many students who have not to work for their bread; Oxford, with its rich colleges and libraries and fellowships, can do for the advancement of learning fifty times over what Giessen or even Leipsic can do. Oxford and Cambridge could beggar the whole world and make the old universities the home of all English genius, all English learning, all English art, all English virtue."

Alas, how far are we from realising what Prof. Müller modestly called his "German dreams"! But that these "dreams" are perfectly realisable Prof. Müller went on to show by facts and figures based on the report of the Commissioners themselves. Why, in accordance with his suggestion, should a certain number of prize fellowships at Oxford not be thrown open to the whole of England? Prof. Müller's suggested scheme is as wide and liberal as the most advanced friends of education could wish, including the practical endowment of research in all departments of literature, science, and art.

"Prize Fellowships," he went on to say, "are in future to be tenable for five or seven years only. This is quite right. But if after five or seven years a young man has developed a taste for scientific work and wishes to continue it, then let him have a second Fellowship, again with duties attached to it, and let that man, with the proceeds of two Fellowships, do the work and fill the place which the Extraordinary Professors fill in Continental universities. Lastly, if after another five years the few who remain true to a scientific life can show that they have done good work and are able and willing to do still better work, let them have a third Fellowship and become permanent Professors in the University on an income of about 1000*l.* a year for life. I must not enter into fuller detail," Prof. Müller went on, "I only wanted to sketch out to you how the national funds of national universities could be made to subserve truly national interests: how Prize Fellowships could be made a blessing both to the giver and the receiver, and how England could stamp out of the ground an army of, call them soldiers, or missionaries, or colonists, or men—true men of science, such as the past has never dreamt of. All this could be done to-morrow, and no one would suffer from it. I know I shall be told—in fact I have been told—that such changes are far too great; that the fathers who send their boys to Oxford and Cambridge would not approve them, and—this is always the last trump—that public opinion is against them. With regard to public opinion, if public opinion—if Parliament—is against us we must bow and wait. As to the fathers of boys—*ces pères de famille*—I am one of them myself, and I do not think we are always the most disinterested judges. As to changes, great or small, Nature teaches us that nothing can live which cannot grow and change, and history confirms her lesson that nothing is so fatal to institutions as a faith in their finality."

The scheme is one which, in its essential points,

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has received the approval of the *Times*. "In fact," that journal concludes, in a leading article on the speech, "if the objects proposed by Prof. Müller for attainment are desirable in themselves, there ought to be no difficulty in obtaining funds for the purpose. In view of what the Commissioners have sanctioned in principle for one College at least in Oxford, it can hardly be said that the objects aimed at are either very visionary or very far in advance of public opinion. If Prize Fellowships may legitimately be used for the purpose of giving some men a start in ordinary life, it is difficult to see why they should not also be used, within reasonable limits, for giving others a modest provision for the pursuit of a learned career."

Why not? every one is likely to repeat except those who imagine they have a vested interest in being supported in idleness on what is really the property of the nation. By so doing, the university would once more make an approach to what it was intended to be, a really national institution. The change would incommode none but idlers, and those who have at heart the real advancement of science and learning must be convinced that the present isolation of both universities can lead to nothing but stagnation. Oxford especially, with its silent and all but deserted laboratories, could only gain by an accession of activity from the outside. Only thus indeed, only by having regular additions of fresh energy, can the place be kept sweet and wholesome; and if once this principle be accepted, as indeed it must be, and the sooner the better, there need be little difficulty in regulating its application. At present it would be difficult to calculate how much of the best intellectual energy of the country is wasted or misapplied, simply because there is no channel open by which it may be guided into the course in which it could do the best work.

There were several other subjects touched upon by the speakers at the University College dinner, to which we have not space to refer. Prof. Morley's tribute to the memory and the work of Mr. Carlyle was well-timed and appropriate, coming as it did just when the country was awed by its recent loss. Mr. Carlyle often said hard things of science, as he did of everything else under the sun. All the same, his methods and his philosophy were as scientific as they could well be, being simply his peculiar applications of the doctrine of the reign of inevitable law everywhere. Apart from this, and while we might disagree with everything he said and positively taught, it must be admitted that the inspiration of his teaching gave fresh energy and earnestness to scientific research, as it did to every other sphere of intellectual activity.

#### ATLAS OF HISTOLOGY

*Atlas of Histology.* By E. Klein, M.D., F.R.S., and E. Noble Smith, L.R.C.P., M.R.C.S. (London: Smith, Elder, and Co., 1880.)

MODERN histology is not yet fifty years old, but fifty years old in the nineteenth century means a great deal, and it is rather a matter of surprise that no English work entirely devoted to histology should have yet appeared than that we should be welcoming the largest and in some respects the most important illustrated work on that subject in this or any language.

That modern histology is most faithfully represented in the book before us becomes abundantly evident on looking at the figures and their description. We find the tissues and organs of the body delineated under every aspect and after every possible method of treatment; hardened with chromic acid, osmic acid, picric acid; stained with hæmatoxylin, carmine, aniline blue; submitted to the action of gold and silver salts and otherwise prepared *lege artis*. Of the value of these in elucidating structure there can be no question whatever, but at the same time we think it would have been well in a comprehensive work of this description had more space been given to the representation of the tissues in their living condition and unaltered by the action of reagents: the almost complete absence of allusion to and representation of the fresh tissues being a defect in the book.

Dr. Klein, in selecting the subjects for illustration, and Mr. Noble Smith in executing them, alike deserve high praise. Many of the figures are evidently as near an approach to facsimile of the preparations as can well be attained, and it need hardly be said that the preparations themselves, made as they are by so skilful a histologist, are as good in all probability of their kind as it is possible to make them.

In looking through the plates one is especially struck with the excellent manner in which the minute anatomy of the various organs is detailed, indeed the part of the work which relates to the structure of the viscera is in all respects better than that in which the simple tissues are dealt with. The illustrations of the latter are comparatively meagre, and in many cases too small, considering the size and aim of the work. This is very marked in the figures of the blood and in those of cartilage and osseous tissue, as well as in the illustrations of the structure of voluntary muscle. On the other hand, the development of bone is well and carefully represented, especially so far as the more intimate processes are concerned; but we miss the general features of bone-formation, such as the first calcification of the primitive cartilage bone, the periosteal irruption, and so on. The nervous tissue is also abundantly and beautifully illustrated, and here we are glad to observe that Dr. Klein has availed himself of the magnificent representations given by Key and Retzius in their monograph on the nervous system; representations that could scarcely have been improved upon, and to compete with which would have involved needless labour.

That the lymphatic system should occupy an important part of the work was to be expected from the fact that we already owe to Dr. Klein two monographs wholly devoted to that system, and from them, as well as from the plates in the "Handbook for the Physiological Laboratory," some delineations are here republished. With the exception of these and one or two other less important instances the figures throughout the book are new, and will no doubt for many years furnish a stock to which both teachers and authors may come for diagrams and illustrations.

As before remarked, the representations of the minute structure of the viscera are particularly good, and will prove useful in replacing many of the coarse and semi-diagrammatic figures which at present occupy a prominent place in the text-books of histology and physiology. We